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### Project list - present

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<b>2017 - present</b>	<b>Bangladesh</b> <b>Client:</b> BWDB <b>Main project features:</b> Review and advice of Bangladesh documents on Capital Dredging Program. Advice on dredging requirements for river stabilization program. Technical advice on river stabilization program of Jamuna and Padma rivers. Assistance in design of closure dams of side channels.
<b>2014 – present</b>	<b>Ziguinchor, Senegal</b>  Preparation of tender documents for (river) port at Boudody. General advice of overall project restructuring. Expert assistance regarding ORIO-subsidies (NL Development Aid) to Agence Nationale des affaires Maritimes (ANAM) Senegal. Activities include alignment, preparation and drafting of tender documents, assistance with tender opening, evaluation, contract closing.
<b>2016 - 2017</b>	<b>Abidjan, Cote d'Ivoire</b> Member of the Due Diligence Team of WSP-CPCS providing due diligence services to the MCC. Advises related to possible new landfill for port area extension in Abidjan lagoon. Reclamation by dredging sand from offshore borrow area, and pumping into an area of the existing lagoon with very soft bottomlayers. Pollution issues.
<b>2012</b>	<b>Project Clean and waste free Bujumbura</b> <b>Client:</b> Ecorys, The Netherlands
<b>2009 - 2010</b>	<b>Gorai River Project, Bangladesh</b> <b>Client:</b> Van Oord Dredging & Marine Contractors BV, the Netherlands  Feasibility Studies
<b>2009</b>	<b>Various Countries</b> <b>Client:</b> Various  Advice regarding ORIO-subsidies (NL Development Aid)
<b>2008</b>	<b>Jakarta, Indonesia</b> <b>Client:</b> CMER, the Netherlands  One of EDC's dredging specialists was member of the working group for the ToR advice for the EIA(ANDAL) concerning Jakarta Urgent Flood Mitigation Project.
<b>2008</b>	<b>Beira Port, Mozambique</b> <b>Client:</b> Ecorys, The Netherlands  Beira Port Access Channel. Technical evaluation ORET application Backlog Maintenance Dredging
<b>2007- 2008</b>	<b>Gulhi Falhu Island, Maldives</b> <b>Client:</b> Boskalis, The Netherlands  EIA report./ Land development project

<b>2006 - 2007</b>	<b>Viligili Island, Maldives</b> <b>Client: Hydronamic, The Netherlands</b>  Completion of full EIA.
<b>2006</b>	<b>Viligili Island, Maldives</b> <b>Client: Hydronamic, The Netherlands</b>  Evaluation of the IEE and ecological survey for the Viligili island in the Maldives.
<b>2006</b>	<b>New Port Benty, Guinea</b> <b>Client: EVD, The Netherlands</b>  PESP Environmental aspects for the new Port of Benty in West – Africa. In combination with Boskalis, Hydroconsult and Damen Shipyards.
<b>2005 - 2006</b>	<b>Vilufushi Island, Maldives</b> <b>Client: FMO, The Netherlands</b>  A complete Evaluation of the technical, financial and environmental aspects of the rehabilitation of the Vilufushi island in the Maldives. (Dutch Government ORET funding evaluation).
<b>2005 - 2006</b>	<b>Vilufushi Island, Maldives</b> <b>Client: Boskalis, The Netherlands</b>  A complete Environmental Impact Assessment report and an ecological survey for the island Vilufushi at the Thaa atoll at the Maldives. The island has been seriously damages by the Tsunami on 26 December 2004, and will become a Safe island. A large part of the flat reef area around the island will be reclaimed using 1.1 million m3 of coral sand. In addition at the edge of the island a revetment and a new harbor will be constructed.
<b>2005</b>	<b>North Bahrain New Town, Bahrain.</b> <b>Client: Sogreah, France</b>  Tender evaluation for the North Bahrain New Town. Six international contractors have offered the tender documents and the evaluation was based on experience, price, methodology, timing, equipment and environmental aspects.
<b>2005</b>	<b>Klaverblad mining project, Suriname</b> <b>Client: Boskalis, The Netherlands</b>  Technical and monitoring program for a bauxite mining program in Suriname. The project includes about 11 million of soft and hard clay overburden, which will be dredged by a Cutter Suction Dredger and transported by a pipeline of 10.5 km to the Para Lake.
<b>2004 - 2005</b>	<b>Landreclamation Maasvlakte 2, the Netherlands.</b> <b>Client: CMER, the Netherlands</b>  EDC's environmental specialist is a member of the independent State Environmental Impact Assessment Committee to set-up the guidelines and to evaluate the EIA report for the Maasvlakte 2 land reclamation for the Port of Rotterdam. The project includes seasand mining of about 350 million m3 and the creation of about 2500 hectares of land reclamation.
<b>2004 - 2005</b>	<b>Eco-engineering, the Netherlands</b> <b>Client: WaterFront Foundation, the Netherlands</b>

Eco-Engineering: sustainable development plan for wet infrastructure projects. The study will focus on preparation of a planning scheme for sustainable development projects and a sustainable development benchmark system for designs and specifications, construction works, usage period and demolition and site clearance.

**2004 - 2005      Construction supervision dredging works Daya Bay, China**  
**Client: Shell-CNOOC, China**

Construction Supervision for the CSPC Nanhai Petrochemicals project at Daya Bay in the Peoples Republic of China. The works include the supervision of the dredging and disposal works, the hydrographic surveys and the environmental monitoring works for the construction of Donglian harbour and the approach channel, the Mabianzhou turning circle and berths and trench dredging for a feedstock pipeline.

**2004              Dung Quat Refinery Project , Vietnam**  
**Client: Dung Quat Refinery, Vietnam**

Evaluation of the tender offers from the dredging contractors for the dredging works and construction of a breakwater foundation.

**2004              West African Gas Pipeline offshore and onshore, Ghana.**  
**Client: CMER, the Netherlands**

EDC's environmental specialist is a member of the independent State Environmental Impact Assessment Committee to evaluate the environmental impact assessment report for the West African gas pipeline system offshore and onshore Ghana.

**2003 - 2004      Sand mining study, Sri Lanka**  
**Client: Ministry of Economic Affairs (SENER), the Netherlands**

A joint project with Stema and Boskalis Dredging. The project includes:

- Development of a master plan for dredging seasand and stockpiling for industrial purposes.
- Field survey offshore Sri Lanka.
- Environmental impact evaluation of the dredging and stockpiling of the seasand.

**2003 - 2005      Dredging and environmental studies Daya Bay, China**  
**Client: BSF, China**

Technical and environmental assistance for the CSPC Nanhai Petrochemicals project at Daya Bay in the Peoples Republic of China. The works include the preparation of dredging and disposal plans (e.g. Donglian harbour and approach channel, Mabianzhou turning circle and berths and placing of pipelines), preparation of environmental monitoring plans, preparation of elements for the tender and contract documents and the evaluation of the international tender bids.

**2003 - 2004      EIA Pipeline project, the Netherlands - UK**  
**Client: Gasunie, the Netherlands**

A joint project with Witteveen + Bos, the Netherlands. Environmental Impact Assessment Study for the 235 km long Balgzand (NL) – Bacton (UK) pipeline project. This gas transport pipeline system consists of an onshore pipeline section from a compressor facility in the Netherlands, a shore crossing/landfall from behind the dunes to a location offshore from the coast, an offshore pipeline crossing the Northsea from the Netherlands to the UK, a pipeline section crossing the beach at Bacton and an onshore pipeline section in the UK to a gas terminal pipeline.

- 2003**                      **Port of Poti Breakwater, Georgia**  
**Client: FMO, the Netherlands**
- Evaluation of the technical, financial and environmental aspects of the rehabilitation of the breakwater of the Port of Poti in Georgia. (Dutch Government ORET funding evaluation).
- 2002 –2003**              **Marine ecological quickscan, the Netherlands**  
**Client: RIKZ- Ministry of Transport & Public Works, the Netherlands**
- A joint project with Witteveen + Bos, the Netherlands. Marine ecological quickscan for cumulative effects of multiple offshore sand dredging and dune, beach and foreshore replenishments projects to ensure the safety of the Dutch coastline (20 years planning project, the Netherlands).
- 2002 –2003**              **Initial Environmental evaluation Bauxite mining, Suriname**  
**Client: Boskalis Westminster, the Netherlands**
- Initial environmental evaluation of a bauxite mining project in Suriname. The project covers three different mining locations and a possible rerouting of a part of the Suriname River.
- 2002**                      **Environmental Committee Expressway Construction, Sri Lanka**  
**Client: CMER, the Netherlands**
- EDC's environmental specialist is a member of the independent State Environmental Impact Assessment Committee to evaluate the environmental effects of marine sand dredging for the coastal stabilization works at several locations along the southeastern coast of Sri Lanka. The works also include the evaluation of the terms of reference and the related EIA's as prepared by local consultants.
- 2002**                      **Environmental Committee Marina Bruinisse, The Netherlands**  
**Client: CMER, the Netherlands**
- EDC's environmental specialist is a member of the independent State Environmental Impact Assessment Committee for the rehabilitation and extension of a 1500 berth marina. The works include the preparation of guidelines for the required environmental impact assessment study as well as the evaluation of the EIA report after completion.
- 2001 - 2002**              **Ecological bottlenecks of marine sand mining, Worldwide**  
**Client: BallastHam Dredging, the Netherlands**
- Environmental study on ecological bottlenecks for sand dredging. This environmental study includes both the Northsea area and several tropical areas (Singapore and Hong Kong) with coral reefs, seagrasses and mangrove areas.
- 2001 - 2002**              **FOS Dredging feasibility study, France**  
**Client: Port of Marseille, France**
- A joint project with Sogreah, France. Dredging feasibility study FOS-Marseille. This port expansion project comprises the deepening of the Darse II port basin and its access channel and the creation of a turning circle. Specific study topics for the 18 million m3 of silt, sand and gravel include: dredging, disposal and beneficial usage options for the various types of sediment; the technical, financial and environmental aspects of the works; recommendations regarding the tender procedure, the selection of contractors and the evaluation of the technical and financial offers.

- 2001**      **Baseline EIA document offshore sand mining, the Netherlands**  
**Client: Rijkswaterstaat, the Netherlands**
- Preparation of the starting document for the offshore sand mining for the construction of the Westerschelde Container Terminal (WCT). This document is used as the tender document for the preparation of the required environmental impact assessment study.
- 2001**      **Environmental Committee sand and gravel mining, The Netherlands**  
**Client: CMER, the Netherlands**
- EDC's environmental specialist is a member of the independent State Environmental Impact Assessment Committee to evaluate the environmental effects of offshore mining of sand and gravel in the Northsea (coastal area and Klaverbank). The works include the preparation of guidelines for the required environmental impact assessment studies as well as the evaluation of the EIA reports after completion.
- 2001**      **Environmental Committee Expressway Construction, Sri Lanka**  
**Client: CMER, the Netherlands**
- EDC's environmental specialist is a member of the independent State Environmental Impact Assessment Committee to evaluate the environmental effects of dredging and stockpiling of 4.7 million m<sup>3</sup> of seasand for the construction of an expressway. The works also included the evaluation of the effects of the expressway on the nearby wetland comprising the Negombo lagoon and the Muthurajawela marsh areas.
- 2001**      **Eco-Engineering, The Netherlands**  
**Client: CUR – WaterFront, the Netherlands**
- Preparation of an action plan for the development of an eco-engineering approach for wet engineering projects. The action plan aims at facilitating and improving the ongoing shift from the conventional engineering approach (based on technology and costs) towards a so-called eco-engineering approach, which more strongly includes the sustainable development and environmental conservation principles. Key topics of the action plan are improvements in higher education, research, design approach and execution methods.
- 2001**      **Seine Estuary Channel Dredging, France**  
**Client: Sogreah, France**
- Dredging feasibility study for creating a 3 kilometres long and 100 meters wide channel in the Seine Estuary. Dredging and disposal will include approximately 1.2 million m<sup>3</sup> of sandy silt, mud and sand. This environmental compensation project aims at restoring and safeguarding the biological functioning of this part of the estuary.
- 2001**      **Evaluation environmental monitoring program, Hong Kong**  
**Client: HAM Dredging, The Netherlands**
- Evaluation of the water quality and ecological monitoring program as set up for a 15 million m<sup>3</sup> sand dredging project at East Lamma Channel Hong Kong.
- 2000**      **Environmental Impact Evaluation Study for offshore artificial islands, Israel**  
**Client: Boskalis Dredging, The Netherlands**
- EDC is carrying out an Environmental impact evaluation for the creation of an artificial airport island offshore the Mediterranean coast of Israel, which requires more than 200 million m<sup>3</sup> of sand and silty overburden. A wide range of environmental aspects has been reviewed, but special emphasis has been put on the effects of dredging, reclamation and disposal works on marine ecology and fisheries.

- 2000**                      **Environmental Impact Assessment for a new Cooling Water System at Ras Laffan, Qatar**  
**Client: French Consultancy Company**
- A joint project with Sogreah, France. Environmental Impact Study for a major common Cooling water system for Ras Laffan Industrial City in Qatar. The study for this 250 m<sup>3</sup>/second cooling water system included 3D thermal plume modelling with special emphasis on effects on aquatic ecology, mangroves and coral reefs.
- 1999-2000**                **Environmental Impact Assessment study for Al Sukhna, Egypt**  
**Client: French Consultancy Company**
- A joint project with Sogreah, France. EDC carried out an Environmental Impact Assessment study for the new Al Sukhna Port in Egypt. The works of this port development project include marine and inland dredging of an entrance channel in the Gulf of Suez and the construction of breakwaters. Special emphasis was put on coral reef protection and offshore disposal of sediments.
- 1999**                      **Initial Environmental Impact Evaluation Danube River, Bulgaria/Romania**  
**Client: European Community, Belgium**
- A joint project with Harris Consulting Engineers and Delft Hydraulics. Initial Environmental Impact Evaluation in relation to the PHARE study to improve navigation on the river Danube. Special emphasis was put on effects of dredging and disposal, and construction of river constriction works on navigation, aquatic ecology, fisheries and recreation.
- 1999**                      **Victoria Land Reclamation Project, Seychelles**  
**Client: C-MER, the Netherlands**
- Evaluation of the environmental aspects of a 350 hectares reclamation project, requiring about 11.6 million m<sup>3</sup> of marine sands. The evaluation included a review of the existing environmental impact assessment study, the mitigating measures and the monitoring planning.
- 1999**                      **Dabhol rock dredging project, India**  
**Client: Dutch consultancy company**
- Consultant for technical aspects and tender procedures for offshore removal of granite outcrops under a soft / fluid clay blanket at Dabhol in India.
- 1999**                      **Desiltation of the Rodriguez lagoon, Mauritius**  
**Client: EC, Belgium**
- A joint project with Resource Analysis: Feasibility study for desiltation of the lagoon and reef flat of the isle of Rodriguez (Mauritius). This EC sponsored coastal zone management project includes remediation planning in relation to silt problems in the lagoon, coral reef protection measures and fishery development planning.
- 1999**                      **Environmental Management Plan for dredging works, Argentina**  
**Client: UTE Boskalis - Ballast Nedam Dredging Consortium, Argentina**
- Development of an Environmental Management Plan (ISO 14000) for the dredging, reclamation and disposal works for the 59 kilometres road link across the Parana River between Rosario and Victoria in Argentina. The road comprises 12 km of bridges and 47 km of embankments constructed from sand fills. The EMP includes an effect matrix, a monitoring plan and a mitigation plan.

- 1998 Mining of industrial sands in the Northsea, the Netherlands**  
**Client: C-MER, the Netherlands**
- EDC's environmental specialist is a member of the independent State Environmental Assessment Committee for Mining of industrial sands in the Northsea. Guidelines for the EIA were drafted on the basis of dredging volumes between 10 to 40 million m<sup>3</sup> of industrial sands in a 10 year period.
- 1998-2000 Klaipeda Port Entrance Rehabilitation, Lithuania**  
**Client: Klaipeda State Seaport Authorities / World Bank, Lithuania**
- A joint project with Harris Consulting Engineers. The project includes the preparation of the detailed design and tender documents for:
- the construction of two new breakwaters
  - rehabilitation of existing breakwaters
  - dredging works for the deepening of the entrance channel and harbour basin
  - the improvement of the mooring/fendering at several berths
  - the installation of a wave/current measuring device near the harbour entrance
- In addition EDC carried out a complete level "A" Environmental Impact Assessment for the project, according World Bank regulations and wrote an Environmental Management Program including mitigating measures and planning of monitoring works.
- 1998 Oil Terminal Development Port of Burgas, Bulgaria**  
**Client: SENTER, the Netherlands**
- A joint project with Harris Consulting Engineers. Evaluation of the dredging and environmental aspects (including sediment sampling and assessment of levels of sediment contamination) of the oil terminal development project for the Port of Burgas.
- 1998- 2000 Gorai River Restoration, Bangladesh**  
**Client: Ministry of Water Resources, Bangladesh**
- A joint project with Witteveen & Bos Consulting Engineers. Supervision of the priority dredging and disposal works at the Gorai River offtake from the Ganges River. The aim of the dredging works is to restore the low dry season river flow through the Gorai.
- 1998 Environmental Committee Coastal Zone Management and Land Reclamation, the Philippines**  
**Client: CMER, the Netherlands**
- EDC's environmental specialist is a member of the independent State Environmental Assessment Committee to evaluate project proposals related to Coastal Zone Management and Land Reclamation projects in the Laguna de Bay and Manila Bay
- 1998 Gorai River Evaluation Mission, Bangladesh**  
**Client: Ministry of Foreign Affairs, the Netherlands**
- EDC's dredging and environmental specialists were invited members for this joint GON / World Bank mission. The works of the EDC specialists included:
- preparation of dredging designs
  - evaluation of surveys and mathematical modelling
  - environmental assessment
  - social impact assessment



- 1998**                      **Hainan Longwan Harbour Dredging and coastal Protection, China**  
**Client: Netherlands Economic Institute, the Netherlands**
- Evaluation of the technical, financial and environmental aspects of the planned dredging and disposal works for harbour construction and coastal protection at Hainan Longwan (in relation to a funding request for the supply of dredging equipment).
- 1997**                      **New York Bight Apex off-shore Muddump site, USA**  
**Client: Aqua Survey Inc., USA**
- Feasibility study in relation to the proposed closure of the ocean disposal area for dredged materials called the Muddump. The project, which was carried out by a team of handpicked specialists, including the environmental expert and a dredging specialist from EDC, included options for remediation and rehabilitation of the disposal area as well as surrounding bottom areas.
- 1996 - 1997**            **St. Petersburg Contaminated Sediments, Russia**  
**Client: Ministry of Economic Affairs (SENER), the Netherlands**
- A joint project with TNO, Haskoning and Boskalis Dredging. The project includes:
- Development of a masterplan for removal by dredging and handling of all the contaminated sediments in the rivers, canals and port areas of St. Petersburg.
  - Introduction of a classification system for contaminated sediments.
  - Technical assistance and presentation of workshops in relation to: site investigations, laboratory analyses, dredging and disposal of contaminated sediments, set up of monitoring programs, etc.
  - Overall Environmental Impact Assessment of the masterplan, which includes land reclamation and construction of a 20 million m<sup>3</sup> disposal facility for contaminated sediments.
  - Environmental Impact Assessment of the dredging and disposal works at a number of priority sites, including specifications for monitoring programs.
- 1996**                      **Evaluation Dredging Works Lac Sud, Tunisia**  
**Client: Netherlands Economic Institute, The Netherlands**
- Evaluation of the technical, financial and environmental aspects of a Lake restoration project near Tunis. The project comprises dredging, disposal and reclamation works, totalling 15 million m<sup>3</sup> of partly contaminated silt and 5 million m<sup>3</sup> of sand (Government funding evaluation).
- 1996**                      **Sediment trap for catchment of contaminated sediments in the river Dommel, the Netherlands.**  
**Client: Province of North-Brabant, the Netherlands**
- A redesign and optimisation study for the sediment trap in the Dommel has resulted in five design alternatives. These alternatives have been reviewed in relation to catchment efficiency, and construction and maintenance options and costs.
- 1996**                      **Evaluation Dredging Works Port of Dar Es Salaam, Tanzania**  
**Client: Netherlands Economic Institute, The Netherlands**
- Evaluation of the technical, financial and environmental aspects of a 2.5 million m<sup>3</sup> dredging, disposal and reclamation project in Dar Es Salaam, Tanzania (Government funding evaluation).



- 1995 - 1996**      **CUR – PIANC Committee “Environmental Management Framework”.**  
**Client: PIANC, The Netherlands**  
 Since 1996 EDC is a member of the Dutch CUR – PIANC Committee for an “Environmental Management Framework to assist PIANC members”.
- 1995 - 1996**      **Szczecin-Swinoujscie Fairway Development Project, Poland**  
**Client: World Bank, USA**  
 A joint project with RMG members. Study in relation to improvements of the 70 km navigational channel between Szczecin and Swinoujscie. The EDC part of the project includes:
- Analyses of the state of the navigational channel including related environmental aspects.
  - Site investigations, sediment sampling and laboratory analyses to assess the level of contamination of the sediments present in the navigational channel and port areas.
  - Development of a masterplan for removal by dredging and handling of clean and contaminated sediments in the navigational channel and port areas of Szczecin and Swinoujscie, including options for beneficial usage of dredged materials.
  - Overall Environmental Impact Assessment of the masterplan, which includes land reclamation and construction of a disposal facility.
- 1995 - 1996**      **Remediation dredging Nieuwe Merwede, the Netherlands**  
**Client: Dredging International, Belgium**  
 Monitoring and evaluation program on the bucketdredge ECODRAG during the pilot cleanup dredging project in the Nieuwe Merwede, with special emphasis on environmental characteristics, like turbidity, spill and dredging accuracy.
- 1995**              **Managing Contaminated Sediment Course**  
**Client: University of Wisconsin, USA**  
 Invited lecturer for the “Managing Contaminated Sediment Course” of the University of Wisconsin, USA. Topic: Economics of site investigations and dredging operations with contaminated sediments.
- 1995**              **Kingston, Jamaica**  
**Client: Netherlands Economic Institute, the Netherlands**  
 Evaluation of a 3 million m<sup>3</sup> dredging and disposal project proposal for Kingston Harbor, Jamaica. Technical, financial and environmental evaluation in relation to a funding request received by the Dutch Government.
- 1994 - 1996**      **Environmental Impact Analyses “Aeroisla”, Argentina**  
**Client: Boskalis International, the Netherlands**  
 Full, World Bank standard Environmental Impact Study related to the construction of a 300 ha artificial airfield-island, offshore of Buenos Aires in the Rio de La Plata. The EIA study included field investigations, mathematical models, a review of dredging and reclamation works, totalling 50 million m<sup>3</sup> of sand and 100 million m<sup>3</sup> of silt/clay overburden, sea defence /breakwater construction, dike/bridge construction, airfield operations and pollution aspects.

- 1994**      **Presentation of lecture papers at the United Nations ESCAP seminar on Environmental Aspects of Dredging.**  
**Client: United Nations - Escap, Bangkok, Thailand**  
 Two lecture papers were presented at this UN-ESCAP seminar:
- Dredging and disposal of contaminated sediments
  - Environmental impact studies for dredging projects
- 1994**      **Environmental impact evaluation of port construction at Ras Laffan, Qatar**  
**Client: Boskalis Dredging, The Netherlands**  
 An Environmental Impact Evaluation was carried out in relation to the construction of the new LNG port at Ras Laffan. The works comprised construction of two breakwaters (5 and 7 kilometres in length), dredging and reclamation of approximately 8 million m<sup>3</sup> of coral, coral sand and sandstone in the Arabian Gulf, as well as land based stone quarry activities. The works carried out included land and marine (scuba diving) site investigations, evaluation of the effects and recommendations in relation to mitigating measures.
- 1994**      **Trial dredging planning Lake Ketel, the Netherlands**  
**Client: Dutch Ministry of Transport and Public Works (Rijkswaterstaat)**  
 A technical study was carried out by EDC in relation to a series of trial dredging activities in Lake Ketel. The test program is an initial part of the cleanup of this fresh water lake, where approximately 10 million m<sup>3</sup> of severely contaminated sediments will have to be dredged. The activities carried out by EDC included:
- project specifications and site selection criteria
  - management approach and tender advice
  - specifications for a site investigations and monitoring program
- 1993**      **Technical assistance for the beach replenishment works of Venice, Italy.**  
**Client: Technital, Italy**  
 A dredging study was carried out for the replenishment of 8 million m<sup>3</sup> of marine sand on two beaches near Venice, Italy. The activities of EDC included:
- supervision of the hydrographic and geo-electrical surveys
  - a dredging feasibility study
  - writing of contract documents and technical specifications
  - review of the environmental effects and possible mitigating measures
- 1993 - 1995**      **CUR Committee "Techniques for three dimensional soil investigations".**  
**Client: CUR (Independent Dutch Research Organisation), the Netherlands**  
 Since 1993 Drs. R.W. van Oostrum is a member of the CUR-Committee PB 63, co-ordinated by Prof. J. Agema. This Committee is carrying out an inventory desk study regarding techniques for soil investigations. The study includes both present available techniques and techniques in a developmental stage. Attention is focused on techniques for both land and waterbed investigations in the top 25 meter.
- 1993**      **Testing of the Auger dredge Nautilus, the Netherlands**  
**Client: Dutch Ministry of Transport and Public Works (Rijkswaterstaat)**  
 A new type of auger dredge was tested in a maintenance dredging work (class four level of contaminated sediments). Field investigations focused on accuracy of dredging, production and turbidity.

- 1993**                    **Cleanup of the contaminated sediments of the river Dommel, the Netherlands.**  
**Client: Promeco BV, the Netherlands**  
 EDC carried out a field and desk study for the selection of dredging equipment. In total 1 million m<sup>3</sup> of with heavy metals contaminated sand is to be removed from a sediment trap and a 50 km long part of the river Dommel. Besides dredging technology special attention was given to the planning and execution of the dredging activities to minimise the environmental effects and the release of contaminants during dredging.
- 1992 - 1995**           **EIA-Committee "Relocation of a marine dump site for dredged material".**  
**Client: Environmental Assessment Committee, the Netherlands**  
 Drs. R.W. van Oostrum is a member of the independent State Environmental Assessment Committee on the relocation of a large marine dump site in the Northsea. The dump site is to hold 150 million m<sup>3</sup> of clean to mildly contaminated sediments coming from maintenance dredging activities in the Rotterdam Port and fairways in the period 1993 - 2005. Basic guidelines for the Environmental Assessment report were drafted and the resulting Environmental Impact Assessment study has been reviewed and commented.
- 1992**                    **Presentation at the Int. Symp. Environmental Dredging in Buffalo, New York.**  
**Client: County of Erie, New York, USA**  
 Presentation by Drs. R. W. van Oostrum as invited speaker about dredging of contaminated sediments in the Netherlands.
- 1992**                    **Publication in the magazine "Bodem".**  
**Client: Magazine Bodem (soil), the Netherlands**  
 The magazine Bodem requested EDC to write an article discussing present research on contaminated waterbeds.
- 1992 - 1994**           **Quantifying emissions with cleanup dredging, the Netherlands.**  
**Client: Dutch Ministry of Transport and Public Works (Rijkswaterstaat)**  
 Desk study and development of a software utility to estimate the environmental effects of dredging contaminated sediments (release of pollutants and polluted sediments during dredging operations).
- 1992**                    **Presentation at the "Waterbed Cleanup" Congress (1992).**  
**Client: Netherlands Study Centre, the Netherlands**  
 Presentation by Drs. R. W. van Oostrum as invited speaker. Experiences with waterbed cleanup projects were discussed.
- 1992**                    **EIA-Committee "Storage in dredge sludge depots" , the Netherlands.**  
**Client: Environmental Assessment Committee, the Netherlands**  
 From 1992 to 1994 Drs. Ronald van Oostrum was appointed as member of the independent State Environmental Assessment Committee on the state planning of disposal options, disposal and disposal facilities for contaminated sediments. The 6 men Committee, chaired by Dr. Cohen (former Director General of the Ministry of Planning and Environment, reviewed and commented on the environmental assessment report written by the Ministry of Transport & Public Works and the Ministry of Planning and the Environment.
- 1992 - 1993**           **Information packet "Soil characteristics in dredging contaminated sediments".**  
**Client: Dutch Ministry of Transport and Public Works (Rijkswaterstaat)**  
 An information packet is drafted with reference to soil investigations of contaminated sediments. The most important characteristics of the sediments for dredging, transportation, consolidation and turbidity generation are discussed.

- 1991 - 1993**      **Technical assistance for the cleanup dredging project for the Second Port of Scheveningen.**  
**Client: Municipality of the Hague, the Netherlands**  
The activities of EDC included:
- evaluation of previous executed sediment investigations;
  - set-up of a supplemental site investigations program (survey planning, set-up of dredging areas, sediment sampling planning, laboratory planning, etc.);
  - execution in co-operation with the Dutch Rijkswaterstaat of all site investigations and surveys;
  - data processing, data analyses, evaluation and reporting on all collected data (including calculations of quantities and quality control).
  - cost estimate and tender advice
  - supervision of a geo-electrical survey
  - writing of contract documents and technical specifications
  - technical evaluation of the 4 offered bids
- 1991 - 1993**      **Course Contaminated Sediments.**  
**Client: PBNA-Rijkswaterstaat, the Netherlands**  
A handbook for a course on contaminated waterbed investigations was written by Drs. Ronald W. van Oostrum and Ir. H.J. Winkels. The course consists of four chapters:
- Soils and sediments (formation, sediment transport, etc.)
  - Waterbeds (special characteristics)
  - Contaminated waterbeds (policy towards, type of pollutants, sources, historic development, environmental effects, etc.)
  - Waterbed soil investigations (sampling practice and techniques, laboratory investigations)
- 1992**      **Presentation at the Rijkswaterstaat congress "Cleanup of contaminated waterbeds".**  
**Client: Dutch Ministry of Transport and Public Works (Rijkswaterstaat)**  
Presentation on the results of the independent monitoring campaigns carried out by EDC during the first two major cleanup projects.
- 1992**      **Presentation at the World Dredging Congress in Bombay, India (1992).**  
Presentation by Drs. R. W. van Oostrum about new insights regarding dredging of contaminated sediments.
- 1990 - 1991**      **Research project "Environmental Dredging", Geulhaven, Port of Rotterdam.**  
**Client: Dutch Ministry of Transport and Public Works (Rijkswaterstaat)**  
Field research to investigate the practice of dredging of contaminated sediments. EDC was responsible for:
- the set-up and planning of all the site investigations and monitoring campaigns, which included hydrographic and side scan surveys, vibrocorer soil sampling and density measurements;
  - data-processing, data analyses, evaluation and reporting.
- The project focused on methods to assess the distribution of the pollutants in the sediments, the accuracy of the excavation process and the overall results of the cleanup activities.